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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,766	10/11/2001	Hisao Ikeda	214907US0	7572

22850 7590 09/24/2003

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ALEXANDRIA, VA 22314

EXAMINER
BALASUBRAMANIAN, VENKATARAMAN

ART UNIT	PAPER NUMBER
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1624

DATE MAILED: 09/24/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/973,766

Applicant(s)

IKEDA ET AL.

Examiner

Venkataraman Balasubramanian

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-29 and 35-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-9, 11-29, and 35-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/2003 has been entered.

Applicants' response, which included amendment to claims 1, 8, 17, cancellation of claims 30-35 and addition of new claims 36-43, filed on 6/30/2003, is made of record.

Claims 1-2, 4-9, 11-29, and 35-43 are now pending.

In view of applicants' response, the following rejection remains.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 4-9, 11-29 and 36-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. US 6,124,454 in view of Tsukamoto et al. US 5,892,065 for reasons of record. This rejection is same as made in the previous office action except that cancelled claims 30-35 are now replaced with new claims 36-43 in this rejection.

As for applicants' traversal the following apply:

The main issue as pointed out clearly by the applicants is the step B of instant process with the Step B of Ikeda et al.

1. Applicants argue that the instant invention the epichlorohydrin in the final product is 100 ppm, which is not taught by Ikeda et al.

As can be seen from the examples of Ikeda et al. teaches a variation in epichlorohydrin content always less than 300 ppm and as low as 130 ppm in the final product. There is a clear-cut teaching that desirability of the reduction of residual level of epichlorohydrin in the final product. The fact that applicants' invention reduced it to 100 ppm is deemed as obvious variant given the combined teachings of the prior art cited. As for applicants' assertion that the examiner has misinterpreted the results of examples shown, applicants should note that it is subsequent to first crystallization, the instant invention further reduces the epichlorohydrin content and that given the fact the prior art clearly teaches desirability of reduced level of epichlorohydrin in the final product, one trained in the art would be motivated to use the product with utmost 300 ppm epichlorohydrin (such as example 5 with 130 ppm) and reduce it further using the solvent taught by Ikeda et al. In short, the step B of Ikeda et al clearly teaches removal of epichlorohydrin prior to recrystallization and in combination with the secondary reference which teaches need to remove epichlorohydrin and a process for its removal, it would be obvious to one trained in the art to adopt the teachings of the combined references to remove as much epichlorohydrin as possible and then wash the resultant crystals to remove residual epichlorohydrin.

2. Applicants also assert that the step B of instant process differs from Ikeda et al. But a careful look at process would show that both Ikeda et al. and the instant process remove epichlorohydrin to obtain solid tris(2,3-epoxypropyl)-isocyanurate. Applicants' process then involves dissolving and precipitating the

final product. Ikeda et al. adopts washing the crystals with solvent. Again, a careful look at the examples of instant process clearly shows a washing step.

Applicants have not shown that due to dissolution and reprecipitation alone the process reduces epichlorhydrin level to 100 ppm. Furthermore, one trained in the art would know that further purification can be done recrystallization and applicants have not shown why this is not a obvious step.

3. As for the third issue raised by the applicants, that they are using solvent free of chlorine, i.e. non-halogenated solvent and hence they were able to reduce the epichlorhydrin level to 100 ppm, applicants have not presented any comparative data showing that halogenated solvent would not reduce the epichlorhydrin level. The fact that Ikeda et al. used acetonitrile or dimethylformamide as solvent for washing may also have the same bearing.

In essence applicants have not shown that why one would not be motivated to use the solvents taught by Ikeda et al., to reduce epichlorhydrin in the final product.

Hence based on the factual inquiry, the rejection is still deemed as proper and is maintained.

Conclusion

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (703) 305-1674. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is Mukund Shah whose telephone number is (703) 308-4716.

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The fax phone number for the organization where this application or proceeding is assigned (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

V. Balasubramanian
Venkataraman Balasubramanian

9/20/2003